ARS POETICA ET HUMANA.

BY JOHN ALBEE.

Dost thou, beloved, see
That even poesy
Hath rites like thine and mine?
  Dost thou its harmonies
  Observe, and how there lies
Along the builded line
  The touch, the frequent ties
The muses love to twine?

See, at the very end
The loving words must blend
In cording rhymes, and kiss,
Their meaning not to miss,
Ere they onward flow
Some other mood to show.
  So do our hearts rehearse,
    In earnest or in play,
  The self-same pulse like verse,
    And lips seal what lips say.

THE PSYCHOLOGY OF DREAMS.

BY JULIA H. GULLIVER.

Among the most perplexing, and at the same time the most interesting problems of Psychology are those connected with the state of the mind in sleep.

For many centuries the phenomena of the mind, as they appear in our waking state have been the battle-ground of the antagonistic schools. The scholarly research and accurate thinking even of the present day have been insufficient to settle these questions beyond dispute. The difficulties which attend the analysis of our waking states must needs be great, inasmuch as the solution of them has so divided and perplexed the scholarly world. But in the psychology of sleep all these difficulties are immensely increased. There seems

to be little in common between the vigorous muscular movements, the clear perception, the logical reasoning of the day, and the lassitude, the wild visions, the strange vagaries of the night. All reasoning from analogy between the two states might, therefore, appear to be out of the question.

If, however, the phenomena of dreams are absolutely *sui generis*, we find ourselves in still greater perplexity. Instead of the direct testimony of consciousness, we must depend for our data upon the memory — a treacherous guide, even in our waking states, while its reports from the dream-world are often so vague and untrustworthy as to be wellnigh useless.

In full view of these difficulties, we must proceed with unusual care in our inductive processes, and draw sharply the line between the known and the conjectural.

For a large proportion of the embarrassments under which philosophy is constantly laboring, a careless use of language is responsible. It will therefore be to our advantage to discover what men commonly mean when they talk about sleep and dreams, and by careful investigation to determine how far these terms are used correctly and how far erroneously. Referring to Webster, we find sleep defined as "a natural and healthy, but temporary and periodical suspension of the functions of the organs of sense, as well as those of the voluntary and rational soul; that state of the animal in which the senses are more or less unaffected by external objects, and the fancy or fantasy only is active." Dreams, according to the same authority, are "the states or acts of the soul during sleep." The definition of dreams is doubtless true in a scientific, as well as a practical point of view. Whether or no, the definition of sleep is equally correct, future discussion will tend to show.

However dissimilar the two states of wakefulness and sleep may appear to be at first sight, there are some facts in general psychology which are suggestive and pertinent to our subject.

First. Psychology and physiology are closely linked. Mind and body act and react on each other. In its ordinary action, we know nothing of the soul save in connection with a material organism.

Second. In rare cases, such as the trance and mesmeric sleep, the mind seems to be freed, to a certain degree, from its bodily restraints, and to act according to independent laws of its own.

Third. It is generally true that greater energy is manifested by one faculty than by another. The quantum of intellectual activity at any given time is seldom equally distributed among all the mental

powers. If undue prominence is given to any one of the functions of the mind, the others suffer in consequence. An excessively retentive memory checks the inventive powers. A good imitator is rarely a good originator. A too vivid imagination, a strong emotion, renders impossible cool judgment and logical reasoning.

Besides these general preliminary statements, there are some well-established facts in regard to sleep itself, and also dreams, which deserve careful attention. In sleep we know, —

First. That the senses do not fall to sleep simultaneously, but one after the other; nor are they always completely dormant. Often they are as sensitive as during wakefulness. The senses of hearing and touch are especially excitable.

Second. We know that the blood tends to leave the brain, to stimulate the digestive organs. As a consequence, the activity of the brain is diminished, while the process of digestion is carried on with increased rapidity and intensity. "*Somnus, labor visceribus,*" said Hippocrates, and his words are substantiated by modern science. Respecting dreams we may assert, —

First. That the sources of dreams are many, and that they vary at different times and with different individuals. These exciting causes may be divided into two general classes, namely, physical and mental. Physical stimulations come from the organs of sense, the internal bodily organs, and the encephalic region. Mental stimulations arise in the mind itself. These are often to be traced to ideas lately received, or to those recalled from the past; but sometimes appear to be originated by the mind while in sleep.

Second. That dreams are characterized by a lack of voluntary attention, and oftentimes by a predominating influence of memory and imagination.

Let us now consider, a little more in detail, what is involved in these preliminary statements, in order to discover what conclusions we are justified in deducing from them. We have found that the sleep of the sense-organs is often incomplete, and that the impressions made upon them are frequently the causes of dreams. That these impressions are a more fruitful source of dreams than is generally supposed, many illustrations go to prove.

It will be needful to adduce only enough facts to show that all the senses may be active in sleep, although not necessarily at the same time, or in the same degree. M. Maury, whose experiments have thrown much light on the subject, caused himself to be tickled, while asleep, on the lips and inside of the nostrils. He dreamed

that a mask of pitch was applied to his face, and then roughly torn off, taking with it the skin of his lips and nose.

A pair of tweezers was held at a little distance from his ear, and struck with a pair of scissors. He dreamed he heard the ringing of bells.

A bottle of eau de Cologne was held to his nose. He dreamed that he was in a perfumer's shop.

Dr. Hammond tells of a young lady who had contracted the habit of going to sleep with her thumb in her mouth. One night she tried covering the offending thumb with extract of aloes, but in the morning woke to find it in her mouth, as usual. During the night, however, she had dreamed that she was in a ship of wormwood, where it was impossible to breathe without tasting the bitterness. Not only are the senses of touch, hearing, smell, and taste sometimes active in sleep, but even the sense of sight is not altogether dormant. Another case is related by Dr. Hammond, where a fire on the hearth, kindling into a bright blaze, caused a sleeper to suppose that he was in heaven, and was dazzled by the brilliancy of every thing about him.

In somnambulism the variations of sense-activity are most remarkable. The sense of touch is often unnaturally sensitive. Maine de Biran mentions a somnambulist who distinguished different kinds of money simply by feeling of them. Another somnambulist, named Negretti, a servant, who frequently rose in his sleep, set the table, and performed other duties, was unable to discern any thing by the sense of taste. Cabbage, seasoned with strong pepper, was eaten by him with as much apparent relish as the most delicately prepared salad.

Whatever may be the effect of sleep on the external organs, the workings of the vital organs continue without interruption, and even, as we have already remarked, with an intensified activity. Here we have an unfailing source of dream material. In the beating of the heart, in the rising and falling of the lungs, in the performance of the other vital functions, is to be found the best example which nature gives of motion that never ceases. Those who have drained the life-blood dry in the restless pursuit of perpetual motion, have thus unwittingly destroyed the only approximation to it which they could hope to discover. Day and night, silently and unceasingly, these processes go on, and will go on till death. One conclusion, then, inevitably follows from these considerations, namely, that for the body perfect sleep is impossible. We have only to keep in remem-

brance the fact, laid down as one of our fundamental principles, in regard to the close correlation which subsists between the mental and physical forces, to be brought to another and far more important conclusion: that these incessant movements of the internal organs make perfect sleep fully as impossible for the mind as for the body. As Leibnitz remarks, "a state without thought in the soul, and an absolute repose in the body, seem to me equally contrary to nature, and without example in the world. I hold, likewise, that something passes in the soul which corresponds to the circulation of the blood and to all the movements of the internal organs." To the same purport Lemoine says:[1] "All principal writers agree that certain movements of the internal organs, imperceptible during wakefulness, become perceptible in the midst of the silence of the outside world, and, at each instance, new disturbances come to furnish materials for new visions." Or, to quote Maine de Biran: "Because each of these impressions [received immediately from the internal organs] can move sympathetically the brain, and awake an image proportional to the affection, one sees that all sleep must be filled with dreams."

That the mind is incessantly active in sleep is also maintained by Hamilton, Kant, Jouffroy, and other eminent philosophers.

There are those who believe that dreams are confined to the moments of transition from wakefulness to deep sleep, and conversely; and that deep sleep is dreamless. The only reason of any weight given for this opinion is that dreams of deep sleep are not remembered. That we have no remembrance of dreams, however, is no evidence that we have not dreamed. Witness the somnambulist, the most vivid of dreamers, who is utterly unconscious, on awakening, of what has passed in his sleep. Witness also the mutterings and tossings of a person who evidently dreams, yet has no recollection of his dream. If we are still in doubt, let us endeavor at the end of a day to recall every thought which has passed through our minds during the day. If this is impossible, how absurd is it to suppose that the memory can and ought to retain all the fleeting fancies of our dreams. Forgetfulness of dreams, therefore, is no proof that they have not occurred.

When we come to consider that, beside ceaseless physical excitations, there are many and effective causes of mental action to be

[1] See *Du Sommeil*, by Albert Lemoine. To this essay a large indebtedness is acknowledged throughout the present discussion.

found in the mind's own workings, we shall be confirmed in the opinion that in sleep the soul never remits its activity. Let us next inquire whether this ceaseless activity is also a conscious activity.

There are certain phenomena of sleep, let us remark in this connection, which seem to show that there is a subconscious activity. For example, the fact that a nurse will wake at fixed hours during the night to give medicine to a patient, and yet sleep soundly between times, appears to indicate a subconscious calculation of the lapse of time. The question now before us is whether there is a conscious, as well as a subconscious activity in dreams. If by consciousness we mean an accurate and lucid knowledge of all the thought-processes involved in dreams, the answer is emphatically in the negative. If it means, however, a certain idea, however confused, of what we do, and think, and suffer, then the acts of the soul are always conscious acts. The fact that we retain a knowledge of our personal identity through sleep is a sufficient proof of this. We have only to appeal to our consciousness to know that we who wake in the morning are the same persons who went to sleep the evening before and have been sleeping during the night. When Leibnitz says, "It is not exactly memory which makes the same man, but it is at least, memory which makes the same *ego*," he does not mean that we must be able to recall at evening all the mental processes of the day, nor that in the morning we must recollect all the dreams of the night, in order that we may know our own identity. He simply means that a single act of thought is no thought; that there must always be a comparison of two things in order that thought may be possible; and, since a single act of consciousness refers to the present only, that memory is essential in order that the changing states of the *ego* may be contrasted and compared. The one thing necessary to a consciousness of self is that the acts of consciousness form one unbroken chain, each being united with that which precedes and that which follows. It matters not how frail and gossamer-like this chain may be, provided that no link be wanting. Consciousness of self, then, implies conscious mental activity which is never interrupted. It may be well to note here that some of the vagaries of dreams would seem to show that we may occasionally lose a knowledge of our own identity while dreaming, although we are always clearly conscious of it on awakening. For example, Dr. Macnish dreamed that he was riding on his own back, without knowing whether he was the carried or the carrier. Again, he saw twenty resemblances to himself in different parts of the room. "I could not ascertain," he says, "which of them was

myself and which my double." Here we have a solution of the difficulty. His anxiety and effort to discover which was himself, were his own anxiety and effort. He was still himself; he was still carrying on conscious thought-processes, which he knew were his own. To come back to the main point in hand, however; not only is there activity, and incessant activity, on the part of the mind in sleep, but, for reasons now given, we believe this to be a conscious activity as well. Yet, let it be distinctly observed that, thus far, only a passive activity (to use a paradoxical expression) has been maintained to subsist on the part of the intellectual faculties in sleep. Leibnitz's idea, that sleep is filled with "little perceptions and confused sentiments," expresses all that has been proved, provided it be understood that these "perceptions and sentiments" never cease to be in consciousness.

It is one thing to concede that the mind is never wholly stupified by sleep, and quite another thing to acknowledge that it is active in all its powers. To this conclusion, nevertheless, we may be led by future discussion.

In pushing our inquiries farther, then, concerning the nature of the soul's activity in sleep, it will be necessary for us to consider, in detail, the various mental faculties as they appear in dreams.

At the outset, let us ask whether there be any one faculty rather than another which constitutes the *ego*, awake or asleep. What the mind is in itself we cannot know, since we know it only as it is manifested to us. What is its fundamental manifestation may be discovered. Descartes supposed it was to be found in the thought-processes. Modern philosophy refers it to the will, and with more reason. Sleep is defined by Maine de Biran as the temporary suspension of the will. Only a moment's reflection is necessary, however, to convince us of the falsity of this position. It may be true, as many assert, that the action of the will on the bodily organs is interrupted in sleep. But this fact is due to the inertia of the body, and not to that of the mind. We have, all of us, dreamed of walking, running, or flying. It matters not that our bodies have been lying immobile during the dream. The suggestion has been given by the mind; the will has decreed. It is owing to a bodily rather than a mental inactivity that the usual result has not followed. None would be so foolish as to maintain that a paralytic had lost the power of willing, simply because his deadened members refused to obey his commands. Yet those who deny the will's action in sleep have no better grounds for their assumption. But stop a moment, expostulates Dr. Hammond; we do not *will* any

action in sleep. We *imagine* we do, and that is all. As an example of this he tells of a dream of his own, wherein he supposed that he was hanging over the edge of a precipice, and that, in spite of the most strenuous exertion of the will, he was forced to cast himself over the brink into the chasm below. In commenting on this, he says: "The imaginary volition was to refrain from crawling over a precipice which did not exist, and over which, therefore, I was not hanging. The volition was just as imaginary as all the other circumstances of the dream." In like manner it might be said that a man who imagines that he sees a robber in his room at night, and who therefore seizes his pistol, takes aim, and fires, has not designed to kill or disable the supposed thief, since in reality it was no thief, but only a shadow, at which he has fired. In addition to the arguments already adduced to show that the will is active in sleep, Dugald Stewart adds very pertinently the following: "If it were necessary that volition should be suspended before we fall asleep, it would be impossible for us, by our own efforts, to hasten the moments of rest. The very supposition of such efforts is absurd, for it implies a continued will to suspend the acts of the will."

Continuing our investigation, let us next consider the reason, as it is manifested in dreams. Reason is a faculty; reasoning is a process. Many will acknowledge the presence of the latter in dreams, while they utterly deny the action of the former. "Reasoning," remarks Dr. Clarke, "may be good or bad, logical or illogical, sound or absurd. There is no contradiction in saying that a dreamer reasons, but does not use his reason." It would be nearer the truth to say that the reason remains in dreams, but the will no longer controls it. While awake, the attention is concentrated by an act of the will on a given subject. This subject is the mind's voluntary choice, and by a careful comparison of the given data, the mind is enabled to reach correct and reasonable conclusions. In sleep, all this is changed. The voluntary attention necessary to compare dreams with each other and with the reality is lacking. Not only this, but the subject-matter of dreams, instead of being chosen by the mind, is introduced regardless of law, or order, or rational connection. So rapidly does one scene shift into another that the wildest confusion and the most absurd combinations result. In dreams, the mind's activity rather than its somnolence is manifested in its earnest endeavors to fit together the disconnected bits of thought which are presented to it. To be sure, these mental mosaics are often incongruous, and even grotesque. But erratic thinking is by no means confined

to sleep. On the contrary, we shall hope to show that the vagaries of our waking moments are to be compared not unjustly to the wanderings of our dreams. Fénelon, speaking of reason, says: "This sun of truth leaves no shadow; it shines upon us in the night as well as in the day; it is a day without a shadow; it is only the eyes of the sick which are closed to its light; and yet no man is so diseased, or so blind, that he walks no more in the faint glimmering of some dim light shed upon him by this interior sun of the consciousness." Few words are required to show that the process of reasoning is sometimes carried on in dreams as logically and accurately as during wakefulness. As Cabanis remarks: "Really the mind can continue its researches in sleep; it can be conducted by a certain train of reasoning to ideas it had not." There are a number of well-known examples to prove this. Franklin said that he was enabled to solve many a political problem in his sleep, which he had labored over in vain while awake. Condorcet frequently fell asleep in the midst of the most abstruse calculations, and woke to find that the thought-processes had gone on while he slept, and that the desired results had been obtained. Condillac gave a like testimony in regard to the workings of his mind in sleep. Many other like illustrations could be instanced, but those here cited are sufficient to show that incoherency is not the necessary characteristic of dreams. It is probable that if we always knew the data on which our reasoning in sleep depended, many of our dreams which now seem ridiculous would prove to be rational thought-processes. The logic of the mind asleep is precisely the same as the logic of the mind awake. The trouble arises from the material with which it has to deal, and not from its method of handling that material. This peculiarity of dream psychology brings out with startling emphasis the danger of reasoning from false premises. Once grant fundamental principles which are not true, says its warning, and it is impossible to predict into what insanities your system, logically carried out, will lead you. The workings of conscience in sleep admit of an explanation similar to that just given. Many assert that the moral sense is entirely lacking in dreams, and numberless cases can be quoted which appear to sustain this opinion. For example, Miss Cobbe, in *Macmillan's Magazine*, November, 1870, says that one of the most benevolent of men, Mr. Richard Napier, dreamed "that he ran his best friend through the body, and ever after recalled the extreme gratification he had experienced on seeing the point of his sword come out through the shoulders of his beloved companion." Inasmuch, however, as the conscience is noth-

ing more or less than the judgment exercised in respect to questions of right and wrong, it is probable that the judgments of our sleep would be found to be regulated by the same principles as the judgments of our waking moments, provided we knew with equal certainty in both cases the data upon which we base those judgments.

Some time ago the writer had a most vivid dream, which illustrates several noteworthy points, but especially the fact that reasoning processes are carried on in dreams.

I dreamed that I was in the remotest corner of a deserted house, which stood alone, apart from all others, empty and desolate. The room where I stood was a small one, lighted by a single candle, which, however, was all-sufficient to disclose the bodies of the dead laid out on all sides of me. A shuddering horror took hold upon me, and I thought it was only by a strong effort of the will that I retained my self-control. Whether my greatest fear was of men or ghosts, I cannot say. I was in deadly terror of both. I was possessed with the idea that there were thieves lurking about the place. "But, after all," I reasoned, "there is little danger of that; for this is the best place of concealment in the whole house. If robbers were hiding on the premises, I should have found them here." No sooner had I rid myself of this idea than another suggested itself. The house was swarming with spectres and ghostly phantoms. At any moment they might come gliding in at the door. But again my reason came to my aid, and I argued: "If there are ghosts here, I shall not see them; for, even were they present, being ghosts and having no substance, they would present no surface from which the light could be reflected to my eye." Is it not manifest that I went through processes of reasoning, and sensible reasoning, too, in this dream, and also that I put forth a strong exertion of the will? Notice also two other points illustrated by this dream: —

First. That, in the process I went through to prove to myself that I should not see any spectres, my mind seemed to leap to its conclusion without thinking out the separate words, as I was obliged to do on awakening and trying to recall my dream; showing the rapidity with which the mind works in sleep, and also throwing light on the vexed question as to whether it is possible to think without words. This dream shows also very clearly an instinct of emotional harmony, which some writers believe to be prominent in dreams, and to form an important feature in producing the unity they often manifest.

Thus far in our analysis, we have been passing through a "debatable land" of antagonistic criticism. Now, however, that we are

ready to consider the faculties of memory and imagination, we find that the divergent pathways have all merged into one, so plain and indubitable that it can be rapidly traversed. That these two faculties often occupy a prominent place in dreams is indisputable. Frequently, the powers of the mind which rule with iron sway during the day are deposed at night, and forced to walk obediently in the rear, following these two gay leaders like monarchs in chains. The fact that the mind is left so largely to its own resources, and has so little, comparatively speaking, to distract its attention, explains not only the vividness and tendency to exaggeration in dreams, but also the prominence of imagination and memory. A good illustration of the creative imagination in sleep is Tartini's "La Sonate du Diable," and also Coleridge's "Kubla Khan," both of which were composed in a dream. The opening lines of the latter are as follows : —

> "In Xanadu did Kubla Khan
> A stately pleasure dome decree,
> Where Alph, the sacred river, ran,
> Through caverns measureless to man,
> Down to a sunless sea."

So vivid and ingenious is this imaginative power that one feels like echoing the words of Caliban, when he says: —

> — "In dreaming,
> The clouds, methought, would open and show riches
> Ready to drop upon me; that, when I waked,
> I cried to dream again."

Dr. Macnish tells a remarkable story, which he vouches for in every particular, showing that in dreams the memory can sometimes recall that which is sought for in vain during the waking hours. He says that a Mr. R., of Bowland, was prosecuted for a considerable sum of money, the accumulated arrears of a tithe. Mr. R. was strongly impressed with the idea that his father, who was then dead, had during his lifetime purchased these lands from the titular, and that therefore the present prosecution was groundless. After diligent search, however, he could find no evidence to support his claim, and accordingly determined to make the best compromise he could. With this resolution he went to bed, and dreamed that his father appeared to him, and told him in whose hands were the papers relating to the purchasing of the land in question. On awakening, Mr. R. went to the person named, and found the papers as described. Dr. Macnish thinks, and his opinion is a reasonable one, that this dream

was a mere recapitulation of information which Mr. R. had really received from his father during his lifetime, but which he had entirely forgotten until it was recalled by his dream. There is something startling in the power manifested by the memory in dreams, suggesting as it does, that forgetfulness is impossible, and that every thought and deed remains forever in remembrance, ready at some future day to bear its terrible witness for or against us.

From the investigation of dream psychology which we have now made, only one conclusion is possible, namely, that *sleep is a function of the body, and not of the soul.* What, then, it may be asked, is the difference between the state of the mind in sleep and its state in wakefulness? To which we would reply, there is no essential difference. But it will be very justly urged, if the mind is consciously active in sleep as well as in wakefulness, why is it not also conscious of the fact that it is dreaming? Why does it accept as reality the wild visions of sleep? For the very reason that sleep pertains to the body and not to the mind. To think, to feel, to will, are acts of the soul. Hence it recognizes them even in dreaming. To sleep is the part of the physical organs. With them it begins and ends. Nor is there any sign by which the mind is informed of the condition of the body.

Still the question arises, if wakefulness and sleep show no essential differences, why do we find the one characterized by all that is reasonable and possible, the other by all that is absurd and incongruous? This statement we have already called in question, in discovering that all the mental phenomena of our waking moments occur also in sleep. The falsity of such a distinction will appear still more clearly if we can show that the converse is equally true, namely, that all the mental phenomena of sleep occur during wakefulness. There are two kinds of error common in dreams, illusions and hallucinations. Lemoine defines an illusion as a wrong interpretation of a sensation made by an external object; an hallucination occurs, according to the same authority, when the mind assigns to an external object a sensation produced by an internal disturbance. Illusions are by no means confined to sleep, but are of frequent occurrence during wakefulness. Witness the following instance related by Dr. Luke, in his book entitled "Mind and Body:" "During the conflagration at the Crystal Palace, in the winter of 1866–7, when the animals were destroyed by fire, it was supposed that the chimpanzee had succeeded in escaping from his cage. Attracted to the roof, with this expectation in full force, men saw the unhappy animal

holding on to it, and writhing in agony to get astride one of the iron ribs. It need not be said that its struggles were watched by those below with breathless suspense, and, as the newspapers informed us, with 'sickening dread;' and all this feeling was thrown away upon a tattered piece of blind, so torn as to resemble, to the eye of fancy, the body, arms, and legs of an ape." Hallucinations are more rare during wakefulness, because one sense may be used to correct another. For example, if we feel, when awake, a stricture at the throat produced by internal inflammation, yet momentarily assign it to some external cause, by simply raising the hand we discover our mistake; nor find it necessary, after the fashion of a sleeping brain, to account for the feeling by supposing that we are suffering death by hanging. Nevertheless, to quote the words of Dr. Elam: "In a state of health and mental soundness, senses may be so imposed upon, with or without existing objects, that in some instances it requires the exercise of all the reasoning and analytic faculties to correct the impression; and in others these impressions are so strong that no suspicion of unreality ever appears to attach to them, nor can the subject of them be persuaded of their unreality."

"It is a well-known physiological law," he further remarks, "that whatever impressions can be produced upon the organs of the senses by external agency can also be produced subjectively by internal changes." Dr. Clarke dwells on this in his book on "Visions." Speaking of the angular gyrus, that part of the visual apparatus which forms the cerebral terminus, and where sight is perfected, he says: "Whatever report the angular gyrus sends to the mind is accepted as true. Were it apt to act by itself, unstimulated by the eye, we should be unable to distinguish orthopia (objective) from pseudopia (subjective). Now and then the angular gyrus does act independently, and the result is amazing and confounding." Again he says: "Vivid ideal pictures, painted by strong emotion or intense volitional effort on the organic structure of the frontal lobes, react on the visual centre of the hemispheres, and lead to the formation there of visual cell-groups more or less perfect in character. These, in turn, visually excite the lobes, and so, by action and reaction, add vividness and accuracy to the ideal representation." This, be it remarked, exactly describes what takes place in sleep. It is what Lemoine expresses in simpler language when he says: "I see a phantom in sleep. Its sight terrifies. I fear lest it advance, pursue, speak, menace me with death. Immediately, it does advance, pursues, etc. Thus one fear augments the other.

A continual reaction of organ on mind, and mind on organ is taking place." But to illustrate the point in question, as to whether hallucinations occur during wakefulness as well as sleep, the case of Goethe can be quoted, who could produce, at will, subjective copies of pictures and various works of art which he had seen. Shakespeare, in his own inimitable way, shows how the senses may be imposed upon. Macbeth, intent on the murder of Duncan, says of the dagger: —

> — "I have thee not, and yet
> I *see* thee still. Or art thou but
> A dagger of the mind; a false creation?
> Mine eyes are made the fools o' the other senses,
> Or else worth all the rest.
> I *see* thee still.
> There's no such thing;
> It is the bloody business, which informs thus to mine eyes."

Hallucinations are by no means confined to those pertaining to the sense of sight. It is a well-known fact that, after the amputation of a limb, the patient continually refers the pain he suffers to the amputated part. In some cases the sensation has been so strong that the diseased member has been actually dug up to see if something was not torturing it. From all of which it appears that error is not peculiar to sleep, any more than reasonableness is peculiar to our waking states.

We do not mean to deny that wildness and misrule are more common at night than during the day. But we maintain that this is for the very reason that the mind obeys the same laws in sleep as in wakefulness. Accustomed to accept as trustworthy the testimony of the senses, it continues to do so even in sleep; utterly unconscious and without warning of the somnolent condition of the bodily organism. Is it any wonder that it becomes confused, that it constantly mistakes the false for the true? So far as the vagaries of dreams are due to the mental rather than the physical condition, they are to be fully accounted for by the fact insisted on as a fundamental principle, and dwelt upon in different parts of this discussion, that voluntary attention is always lacking in dreams, and that frequently memory, and especially imagination, predominate over the other faculties. "Attention," says Maury, "instead of dominating the images which present themselves, is itself dominated by them." Under these circumstances, it is natural to suppose that the judgment and reason should be frequently in abeyance, since we have already seen that if

undue prominence is given to any one of the functions of the mind, either during wakefulness or sleep, the others must suffer in consequence.

Finally, it may be urged, if the position here maintained is a just one, how can there be any recuperative power in sleep? What chance is there for brain relaxation, if the mental processes continue at night as well as during the day? This brings out a very important point. While we believe, and have tried fully to demonstrate, that the activity of the mind in sleep is the same in *kind* as the activity of the mind awake, we also believe that, generally speaking, it is very much less in *degree*. Moreover, repose does not necessitate the cessation of all mental activity. The brain wearies when the mind is forced to keep its attention fixed on a given subject for any length of time. It is restraint, not action, which fatigues. It is change, rather than stupefaction, which refreshes. Just as during the day, after long and concentrated mental effort, we obtain rest in allowing the mind to wander at will; so in sleep, only much more perfectly, the thoughts, given loose rein, rove on in unrestrained vagrancy, and thus the tired brain finds repose.

So far is it from being true that the mind is deprived of any of its faculties in sleep, that it seems at times to possess even a supernatural power. In the brilliant imagination, the accurate and far-reaching memory, the marvellous rapidity of thought, and the tireless activity which goes on and on, while the wearied body lies stupefied and inert, we catch glimpses of what the underlying soul may be, when, freed from the material organism which fetters it, it shall enter upon a new and independent existence.

"Dormientium animi maxime declarant divinitatem suam."